

EXAMPLES OF CHEMICAL HAZARDS

COMPRESSED GASES (CLASS 2)

- Flammable: Acetylene, carbon monoxide, ethane, ethylene, hydrogen, methane
- Oxidizing: Oxygen, ozone, oxides of nitrogen, chlorine, fluorine (chlorine and fluorine reacts with flammables similarly to that of oxygen)
- Corrosive: Ammonia, hydrogen chloride
- Highly Toxic: Arsine, cyanogen, fluorine, germane, hydrogen cyanide, nitric oxide, phosphine, hydrogen selenide
- Inert: Argon, helium, krypton, neon, nitrogen, xenon
- Pyrophoric: Diborane, dichloroborane, phosphine, silane
- Unstable: Butadiene, ethylene oxide, vinyl chloride, methyl acetylene

FLAMMABLE & COMBUSTIBLE (CLASS 3)

Flammables:

- Class IA liquids: Flash Point <73°F (23°C) and Boiling Point at or below 100°F (38°C)
- Class IB liquids: Flash Point <73°F (23°C) and Boiling Point at or above 100°F (38°C)
- Class IC liquids: Flash Point at or above 73°F (23°C) and below 100°F (38°C)

Combustibles:

- Class II liquids: Flash points at or above 100°F (38°C) and below 140°F (60°C)
- Class IIIA liquids: Flash point at or about 140°F (60°C) and below 200°F (93°C)
- Class IIIB liquids: Flash point at or above 200°F (93°C)

REACTIVES (CLASS 4)

Flammable solids

- Organic Solids: Camphor, Cellulose Nitrate, Naphthalene
- Inorganic Solids: Decaborane, Lithium Amide, Phosphorus Heptasulfide, Phosphorus sesquisulfide, Potassium Sulfide, Anhydrous Sodium Sulfide, Sulfur
- Combustible Metals: (Except Dusts and Powders) Cesium, Magnesium, Zirconium

Water-reactive material

- Aluminum alkyls, bromine petafluoride, bromine trifluoride, chlorodiethylaluminium, diethylzinc, calcium carbide, calcium metal, lithium hydride, methyl dichlorosilane, potassium metal, potassium peroxide, sodium metal, sodium peroxide, sulfuric acid, trichlorosilane, acetyl chloride, sodium hydroxide, chlorosulfonic acid and titanium tetrachloride

Unstable materials

- Acetyl peroxide, dibutyl peroxide, dinitrobenzene, ethyl nitrate, peroxyacetic acid, picric acid, hydrogen peroxide (>52%), hydroxylamine, nitromethane, paranitroaniline, perchloric acid, tetrafluoroethylene monomer, acrolein, acrylic acid, hydrazine, methacrylic acid, sodium perchlorate, styrene, vinyl acetate, acetic acid, hydrogen peroxide (35-52%), paraldehyde, tetrahydrofuran

REDUCERS (CLASS 5)

Oxidizers

- Gases: Oxygen, Ozone, Oxides of Nitrogen, Fluorine, Chlorine
- Liquids: Hydrogen Peroxide, Nitric Acid, Perchloric Acid
- Solids: Chlorates, Chromates, Chromium trioxide, Iodine, Nitrates, Nitrites, Perchlorates, Peroxides

Organic Peroxides

- Dibenzoyl peroxide, butanone peroxide, acetyl peroxide, diacetyl peroxide, butyl peroxide
- Organic Peroxides contain a double oxygen or peroxy (-o-o) group. Some are prone to explosive decomposition.

TOXIC (CLASS 6)

Highly toxic material

- Gases: Arsine, cyanogen, diborane, fluorine, germane, hydrogen cyanide, nitric oxide, nitrogen dioxide, ozone, phosphine, hydrogen selenide, stibine.
- Liquids: Acrolein, 2-chloroethanol, hydrazine, hydrocyanic acid, 2-methylaziridine, acrylonitrile, methyl isocyanate, nicotine, tetranitromethane, tetraethylstannane
- Solids: Phenylmercury, 4-aminopyridine, arsenic pentoxide, arsenic trioxide, calcium cyanide, 2-chloroacetophenone, aflatoxin B, decaborane(14), mercury II bromide, mercury II chloride, pentachlorophenol, methyl parathion, white phosphorus, sodium azide

Toxic material

- Gases: Boron trichloride, boron trifluoride, chlorine, chlorine trifluoride, hydrogen fluoride, hydrogen sulfide, phosgene, silicon tetrafluoride
- Liquids: Acrylonitrile, allyl alcohol, alpha-chlorotoluene, aniline, 1-chloro-2,3-expoxypropane, ethyl chloroformate, 3-chloropropene, o-cresol, furfuryl alcohol
- Solids: Acrylamide, barium chloride, barium nitrate, benzidine, p-benzoquinone, beryllium chloride, cadmium chloride, cadmium oxide, chloroacetic acid, chlorophenylmercury, chromium (VI) oxide, potassium fluoride, potassium hydroxide, selenium (IV) disulfide, sodium fluoride

CORROSIVE (CLASS 8)

- Acids: Chromic, formic, hydrochloric (>15%), hydrofluoric, nitric, perchloric, sulfuric
- Bases: Ammonium hydroxide, calcium hydroxide, potassium hydroxide, sodium hydroxide, potassium carbonate
- Others: Bromine, chlorine, fluorine, iodine, ammonia